HIGHMARK INC.

Need for Statutory Surplus
and
Development of Optimal Surplus Target Range

May 21, 2004

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I. OVERVIEW

A. Background and Scope

General. Adequate surplus is central to the viability and sound operation of any insuring organization. It is needed to enable a company like Highmark[1] to ensure that the promises and commitments made in offering health care protection to its customers, directly and through its subsidiaries and affiliates, can continue to be met. It is also needed to ensure that its promises and obligations to hospitals, physicians, and other providers can be met. Further, surplus is needed by a company like Highmark to develop new products, maintain and operate complementary services and coverages, build infrastructure, respond to new business opportunities, develop and maintain service capabilities, and generally operate effectively as a viable ongoing business entity over time.

Highmark has committed itself to a corporate mission to "provide access to affordable, quality health care enabling individuals to live longer, healthier lives." This is an important factor with regard to the platform on which the company plans and builds for the future. It means that Highmark must always keep itself in a position to meet the promises and commitments it has made, under whatever circumstances (anticipated or unforeseen) may arise. It also means that Highmark must continue over time to offer health care coverage products that customers voluntarily choose to purchase.

In order to fulfill its corporate mission, Highmark must be stable and strong financially. It must systematically build and maintain sufficient statutory surplus to remain viable over time, while competing in a market against strong regional entities and very large national managed care companies. These national competitors, in particular, have enormous financial and technological resources, extremely large enrollment bases over which to spread overhead costs, and the ability to diminish participation or withdraw from Highmark's markets as they see fit. Highmark

[1] The term "Highmark," as used in this report, refers to Highmark Inc. and its subsidiaries, affiliates and related parties, as an overall enterprise, unless specifically indicated otherwise. For historical periods, this includes all predecessor companies, including Blue Cross of Western Pennsylvania and Pennsylvania Blue Shield.

should never underestimate the difficulty of fulfilling the commitment made in the company's corporate mission.

Financial strength for Highmark, under these conditions, requires ever vigilant attention to the fundamental financial elements of the health insurance business. Principal among these elements are adequate rates, competitive costs (medical costs and administrative expenses), and strong statutory surplus. Inadequate performance over time with regard to any of these three elements is almost certain to lead to failure in meeting Highmark's corporate mission and commitments, and to failure to sustain itself as a viable business.

Pennsylvania Insurance Department Request Regarding Surplus Levels. In its Notice 2004-01 issued January 17, 2004, the Pennsylvania Insurance Department (PID) requested certain information from Highmark regarding its reserve and surplus levels. Certain aspects of this Notice were modified or clarified at a subsequent hearing on the Notice. Two of the items requested by the PID, with regard to which we were asked by Highmark to assist in formulating the company's response, were (i) a suggested maximum surplus range within which to operate, using Risk Based Capital (RBC) or another methodology, and (ii) a proposed business plan explaining how surplus maintained in excess of the suggested maximum range should be distributed.

The development of an optimal surplus target range within which to strive to operate under normal circumstances is an important undertaking for a company such as Highmark, as a matter of prudent business practice and planning. It should be updated periodically, to reflect fundamental changes in operations and the environment. Although perhaps not completely unprecedented in concept, the establishment of a maximum surplus level – beyond which a portion of Highmark's assets might be distributed by the company to other parties (not stock shareholders or mutual insurance company policyholders) – is an unusual action, in our experience. Such a step has legal, philosophical, and financial ramifications for the company. This report is not intended to explore these ramifications, other than to outline certain principles that we believe should be followed in addressing amounts above some predetermined threshold level for the company's surplus, in a manner to protect the financial soundness and ongoing viability of the company.

Scope of This Report. This report has been prepared by Milliman at the request of Highmark. The purpose is to address the need for statutory surplus for Highmark (including its subsidiaries and affiliates) and to quantify an optimal surplus target range within which we believe Highmark should strive to operate, under normal circumstances. We understand that the upper end of this range may be considered as constituting a level beyond which surplus amounts are potentially unnecessary to serve the risk-taking and business needs of the enterprise and, if so, that action may be taken to distribute such amounts.

In order to develop an optimal surplus target range, we used actuarial projection techniques. We characterize the output of this form of analysis as "pro forma projections." They show the financial results that could be expected if actual operations were to occur exactly as stated and assumed, with no deviations. These pro forma projections are intended to serve as demonstrations of the impact of the stated assumptions within a scenario, relative to alternative assumptions and scenarios, so as to enable an understanding of the actuarial implications of the scenario assumptions. The pro forma projections are not intended to be predictions or forecasts of what the future will hold as actual circumstances emerge and contingencies arise. Actual future financial outcomes will undoubtedly vary, potentially in a material way, from any particular pro forma projection scenario.

This report has been prepared for the exclusive use of Highmark, to help its management and Board of Directors formulate intermediate and long-term financial and business plans for the company. The material contained in it will not necessarily apply to any other situation or set of circumstances, and may not be appropriate for other than its stated purpose. To conduct our analysis, we relied on a variety of confidential and proprietary data and information provided by Highmark staff. We did not audit the material we received, although we did review the data for general reasonableness. However, if there are any substantial inaccuracies in the data, the results of our analysis may likewise be substantially inaccurate.

We understand that Highmark may wish to share this report with the PID and others. We hereby grant permission, so long as the entire 54 page report is provided.

B. Approach Taken by Milliman

As indicated above, the purposes of this report are to address the need for statutory surplus for the Highmark enterprise, and to quantify an optimal surplus target range within which we believe Highmark should strive to operate under normal circumstances. The need for surplus is addressed specifically in Section II, and throughout the remainder of this report.

The approach to developing an optimal target surplus range for Highmark is documented in Sections III-VI. It begins in Section III with a discussion of minimum surplus requirements, which create a floor for our analysis and development.

Sections IV and V describe alternative bases for establishing the amount of provision to be made against risk of loss and other contingencies. Section IV presents historical operating loss results for the industry as a whole, for Highmark, and for a comparison set of Blue Plans. This data provides an empirically-derived basis for making provision against future multi-year adverse loss periods. Section V addresses specific risks and contingencies, enabling their quantification and combination through Monte Carlo simulation. The result is an alternative approach to making provision for loss periods, based on risk assessment rather than actual historical operating results. Together, these two alternative approaches help to form a range of multi-year operating loss levels, against which Highmark's surplus needs to provide protection for the company. Section VI then applies the loss levels developed in the preceding two sections using pro forma financial projections, in order to determine the amount of surplus needed by Highmark to operate under normal circumstances as a viable company.

Section VII discusses briefly what we believe to be the key principles to consider if Highmark or others were to treat the upper end of the optimal surplus target range as an indicator of a potential maximum. These principles are particularly important if consideration should be given to reducing the company's surplus by distributing assets that are determined not to contribute to the well being of the company and those who rely on it.

II. SURPLUS NEEDS AND USES

A. Business Environment

Continued change has been, and will continue to be, a predominant characteristic of the U.S. health care industry at large. This is driven, at least in part, by the fact that today in most areas of the country the health insurance market is increasingly dominated by aggressive and highly competitive regional and national managed care companies. In order to remain viable, a health insurer must anticipate and respond to this ever-changing competitive environment. Doing so requires substantial capital resources and surplus.

The business environment of tomorrow is certain to differ markedly from that of today. Some directional changes – such as continued advances in technology and competitive pressures from consolidation and scale of operations – can be generally anticipated. Other fundamental environmental changes simply cannot be known at this time. The continued viability of a company like Highmark will require that it have the foresight, savvy, and resources to both anticipate and respond effectively to such changes.

Competitor Consolidation and Scale. Perhaps the most noticeable change in the health care industry over the past decade has been the unprecedented consolidation of even sizeable insurers and managed care plans into large and jumbo-sized companies. Most commercial life insurance carriers – stock and mutual companies – have withdrawn from the health insurance market, selling their sizeable blocks of business to the few remaining managed care companies. Likewise, a large proportion of HMOs have gone through mergers or acquisitions, producing an ever smaller number of increasingly larger surviving entities which operate regionally and nationally; and significant consolidation is occurring within the Blue Cross and Blue Shield system.

The capital resources of these new competitors tend to be enormous. Such resources enable them to invest in new, leading technologies and to aggressively build and contract with provider networks. It gives them negotiating clout, risk-spreading capacity, and funding for market acquisition. A large scale of operations also enables them to spread overhead costs more effectively.

Role of Technology. Virtually every segment of our economy is being bombarded with technological change. Not only is every aspect of the way business operates changing, but what businesses do as a result of new technology-driven capabilities continually changes as well.

The inherent natures of medical delivery and of health care financing place a high degree of importance on communication, data gathering and processing, testing and analysis, and information feedback among these activities. Health insurers must stay near the forefront in terms of the effective integration of communication, information processing, and computing technology. This requires capital investment, which has become virtually continuous with the rapid development and obsolescence of technology.

Care Management Evolution. Care management strategies and programs come in a number of forms today, but virtually all health care coverage is "managed" in some manner. This was initiated, at least in part, by the public acceptance of and dramatic growth in HMOs during the past 10-20 years. Today, care management can be considered more appropriately in terms of the nature, form, and extent of the clinical and financial management involved in whatever health care products are found in the local market, rather than in terms of the enrollment in any particular product type.

The clinical and financial management of care has not only expanded, it has evolved. This has been driven, at least in part, by a blend of consumer and provider pressures and advances in information technology. As technology has enabled the detailed analysis of financial and member information, the industry has begun to manage and evaluate the delivery of medical services against protocols and benchmarks derived from a combination of cost and quality factors. This new direction for the industry is also being driven by factors such as the rapid introduction of new drugs and therapies, including the use of member direct marketing strategies.

Simply keeping pace with these kinds of changes, let alone playing a leadership role in the market, is a daunting challenge for every major health insurer. Core competence, corporate capabilities, and support systems in the clinical and financial management of care must be re-established and overhauled every few years. This requires the maintenance of strong business and professional leadership, a depth and breadth of clinical management resources, and astute financial thinking. It also requires ongoing capital investment, which at times may be substantial.

Competitive Market, Small Operating Margins. With the exception of certain brief periods and certain atypical geographic areas, operating margins (i.e., the excess of premium over claims and expenses) for health insurers generally have been remarkably low over time. A notable exception historically was the early 1990s, when certain aggressive, publicly traded managed care companies achieved substantial gains for a number of consecutive years (at least in part through favorable risk selection). Even then, the primary source of sizeable profit growth for many publicly traded HMOs was through mergers and acquisitions.

The health care coverage market continues overall to be price sensitive. From time-to-time and from place-to-place, price and operating margin pressures ease somewhat for brief periods. However, the pervasive ongoing outlook is for strong competition, enabling only modest levels of sustainable operating margins. Two direct implications are that (i) a pattern of consistent gains year-after-year for any extended period is rarely achieved without loss years interspersed throughout, even for a well run insurer, and (ii) full recovery from a period of substantial and prolonged losses is very difficult without radical actions. These point to the importance of financial "staying power" – sufficient surplus or other sources of equity capital to recover from cyclical downturns and unexpected adversities.

Competing in the Market as a Not-For-Profit Company. Highmark is a not-for-profit health insurer offering health care products in its licensed service areas, directly under the Highmark Blue Cross Blue Shield and Highmark Blue Shield brands as well as through Keystone Health Plan West, Inc. and HealthGuard of Lancaster, Inc., its HMO subsidiaries. It also offers a range of insurance and related services through other subsidiaries and affiliates, which complement its core health insurance products.

The corporate mission of Highmark, as stated earlier, is to "provide access to affordable, quality health care enabling individuals to live longer, healthier lives." To fulfill this mission, Highmark must compete successfully in the market against all competitors who elect to enter, whenever they choose to do so. It must not only sell its health care coverage products to willing customers, but it must do so on a basis which can be sustained indefinitely.

A significant requirement of meeting this mission and competing effectively is to maintain sufficient equity capital resources. Highmark, as an enterprise, faces the same insuring and business needs for equity capital as its major competitors – for-profit or not-for-profit. Since it is not owned by shareholders, it has no access to equity capital other than its surplus. This necessitates both the maintenance of a strong surplus level, and the cautious management of that surplus. Failure to do so would jeopardize the entire foundation of Highmark – including its future viability, and therefore its ability to reliably and sustainably provide access to affordable and quality health care.

During the normal course of business, Highmark contributes substantial amounts to charitable activities, including particularly those that address medically and economically disadvantaged individuals. Our understanding is that the company attempts to do so in a way that it can reasonably anticipate future funding levels, ensure the provision of such funding, and sustain its level of charitable activity and support over time. Undertaking these charitable activities should not be considered contrary to the prudent financial management of the surplus of the enterprise. The successful financial operation of Highmark, including management of its surplus, is essential if the company is to be counted on to continue to undertake its historical level of support for charitable activities.

Access to Capital. Historically, most health insurers were mutual or not-for-profit companies. The surplus held by such companies comes largely from accumulated operating gains and investment income. Today, most of the major national health insurers and managed care companies, as well as many regional ones, are publicly traded stock companies. This affords them long-term access to equity capital markets for risk-taking, operational development, or growth needs – in addition to their accumulated operating gains and investment income (i.e., in addition to their surplus).

The magnitude of the funds involved in the equity capital markets for publicly traded health insurers and managed care companies is very large, relative to the surplus of such companies accumulated from operations. The excess of their market value over tangible net worth (a rough proxy for surplus) represents additional equity capital value to which the company can gain access for various purposes, if necessary. Clearly, this is a major financial advantage which these for-profit companies hold in access to equity capital.

Catastrophic Risks. Virtually all types of insuring entities in today's world face the risk of certain catastrophic events occurring. Such events, by definition, have a low probability of occurring and very severe adverse financial consequences. For health insurers such as Highmark, potential catastrophic events range from the impact associated with terrorism, to epidemics or pandemics, to natural or other disasters, to extraordinarily high damage awards from major class action or other litigation.

Because of the low probability of particular catastrophic events occurring, and their changing prospects and nature over time, it is not unexpected that a company would not have actually experienced an occurrence of the sort of catastrophic event for which it is presently at risk. Failure of the insurer to provide protection against such risks, however, means that the company is exposed to ruin or incapacity from such an event. More importantly, it means that the company does not maintain the resources to protect its subscribers and members, its providers, and its vendors against catastrophic loss – should such an event occur. Prudence regarding fundamental soundness and assuring ongoing viability dictates a meaningful level of surplus protection against such events.

B. Surplus and Risk-Taking Capital Needs

The surplus for a Plan like Highmark is the equity capital (excess of assets over liabilities) available to ensure the future viability of the company. Ensuring future viability recognizes (i) the possibility of adverse financial results and of unexpected events occurring, (ii) the periodic need to provide for extraordinary health care development costs or investments in support of the company's operations, and (iii) the capacity necessary to enable reasonable growth.

The overall surplus needs of a not-for-profit Blue Cross Blue Shield Plan include all of these considerations – risk capital, funding of health care development costs, and growth capital. All of Highmark's risk-taking capital needs created by the varying risk characteristics of its business and all other immediate needs for equity capital must be met by the company's surplus.

To ensure the future viability of a health insurer requires recognition of all of the kinds of adverse financial results and unexpected events or circumstances that might occur. Some of these adverse results and unexpected occurrences are directly related to the types of insurance risk assumed by the company through the normal course of conducting its business. Other types of risk pertain more generally to various aspects of the operation of the company – including fluctuations in expense levels, fluctuations in interest rates and asset values, and various business risks. Finally, risk is associated with a variety of catastrophic events that might occur, and that a company like Highmark must be prepared to withstand.

Broadly speaking, these risks represent the adverse cyclical results and the contingencies or unexpected occurrences faced by a health insurer in the day-to-day conduct of its business. The term risk capital can be used to refer to the level of surplus needed by the company to prudently manage and absorb these risks.

Maintaining an adequate level of risk capital is necessary for a health insurer in order to ensure that provision is made for all of these risks assumed by the company. Without adequate risk-taking capital of its own, a health insurer is faced with a small number of potential alternatives. They may include:

- permanent equity capital infusion from an external source (not generally available to a not-for-profit insurer, other than possibly as part of a merger or acquisition).

- temporary equity capital infusion from an external source, such as a surplus note (which may or may not be available or affordable, and which usually has significant strings attached, typically involving loss of some or all of the control of the Board of Directors).

- transfer of risk to another entity with adequate risk capital (which may or may not exist or be feasible), and the loss of control that might accompany such a shift.

- compensation for inadequate surplus by immediately charging extraordinarily high premium rates for the company's products (difficult, if not impossible, in a competitive and closely regulated market), to eliminate as much as possible the risk of future losses.

- compensation for inadequate surplus by immediately taking inordinately deep cost cutting actions, to mitigate as much as possible the risk of future losses.

Some of these potential alternatives may not be feasible, and none of them is likely to come without serious ramifications. Specifically, extraordinarily high premium rates or inordinately deep cost cutting actions cannot be made in a vacuum; they may have severely adverse effects such as significant enrollment losses due to uncompetitive pricing or poor customer service.

C. Use of Capital for Development and Growth

An additional need for surplus is the funding of health care development costs or operational capacity (infrastructure) investments. These might be improvements or innovations such as new product development; periodic revamping of delivery system networks, reimbursement structures, or management of utilization; or development or acquisition of new communications, information, or processing systems. Such investments must be made periodically, and the corresponding costs incurred, if the company is to be successful in the health insurance business. Often such capital expenditures do not produce hard assets that can be admitted on the company's statutory balance sheet. This means that such expenditures generally must be absorbed immediately out of surplus.

Growth and expansion is a major goal for most successful business entities operating in a competitive market. This requires the presence of market opportunity, plus the resources necessary to pursue growth from such opportunities. Growth can be achieved directly through day-to-day competition in existing markets, through entry into relatively new markets, or through long-term affiliation in existing or new market areas. Examples at this particular time include new consumer oriented product demands and opportunities, and expansion of insured products to the senior market under Medicare reform.

Developing and absorbing growth requires growth capital to fund developmental costs, to cover the initial losses resulting from the need to be price-competitive at the outset in order to become established, to absorb any losses resulting from setbacks or inexperience in the new market, and to withstand the short-term surplus strain (i.e., growth in enrollment or volume of business in force, without corresponding immediate growth in surplus). Obviously, a prerequisite for financially sound growth for a not-for-profit health insurer is strong surplus.

III. MINIMUM SURPLUS REQUIREMENTS

A. Background

In the wake of various insolvencies (and near insolvencies) around the country in the not-too-distant past, attention has been directed at minimum standards for the surplus of managed care organizations generally, and of Blue Cross and Blue Shield Plans specifically. Historically, individual states had done little to effectively monitor the financial condition of such organizations and to detect organizations that were becoming troubled financially, prior to the immediate threat of insolvency. Notwithstanding any differences of opinion among parties with regard to appropriate thresholds for minimum surplus levels, the common theme of this growing industry and regulatory attention has been ensuring adequate minimum levels of surplus to protect against organizational insolvency, thereby protecting the insured members from loss.

For a number of years, the Blue Cross and Blue Shield Association (BCBSA) has required that all BCBS Plans calculate Plan-specific measures related to solvency, and that a Plan's surplus not fall below certain thresholds relative to such measures. This process has been part of the BCBSA membership requirements; and compliance has been necessary in order to maintain good standing and retain use of the trademark.

Over time, the Association's minimum requirements became formalized in the form of Capital Benchmark formulas and calculated values. With the development and adoption of Risk Based Capital (RBC) formulas and standards for managed care organizations by the National Association of Insurance Commissioners (NAIC), BCBSA likewise adopted RBC as the foundation for its own membership requirements (effective late 1999).

The RBC mechanism is now widely recognized as a standardized approach to developing minimum solvency indicators. Calculated RBC values are required for inclusion in the NAIC annual financial statements filed by health insurers; and most States (including Pennsylvania) have adopted the NAIC's RBC-based compliance standards to help assure that health plans meet minimum requirements for solvency. The RBC methodology provides for the calculation, by

detailed formula, of a benchmark or reference value, multiples of which are used to establish standards for external monitoring and intervention.

The use of RBC as a methodology, and the values calculated from it, obviously have significant limitations. The RBC formula is a structured and mechanical approach to trying to capture and quantify the risk characteristics for a wide range of different types of companies operating in a variety of environments, with changing circumstances over time. As a structured and mechanical formula that attempts to address complex matters, it necessarily contains elements that are judgmental. Nonetheless, it serves a highly useful purpose in identifying companies whose surplus levels may be precarious, and therefore warrant careful scrutiny. Such scrutiny cannot be applied in a meaningful way, however, without a detailed examination of company conditions and circumstances by knowledgeable professionals experienced in the field. Because of these factors, the principal and most important role of calculated RBC values is to serve as a screening or flagging mechanism, to indicate potentially serious situations that may warrant undertaking more thorough and comprehensive evaluations.

The RBC formula was designed and developed for identifying companies that may be facing the prospect of impending insolvency. At such a point, all efforts (internal and external) should be directed at stabilization and financial rehabilitation, in order to prevent going out of business. The RBC formula does not address needs associated with ongoing business viability and success. In developing an optimal range for a company's surplus, as opposed to a minimum threshold for solvency monitoring, surplus needs for matters not contemplated in the RBC formula must be considered and addressed.

B. Minimum Capital Thresholds

The use of Risk Based Capital (RBC) measurements is intended to provide a systematic approach to developing benchmarks for individual companies for use in monitoring minimum levels of statutory surplus needed for protection from insolvency. As indicated above, the RBC formula adopted by the NAIC for managed care organizations (including Blue Cross and Blue Shield Plans) provides an objectively calculated reference value that can be used for this purpose. Although far from perfect, it does recognize a company's size, structure, and volume of retained risk. It also incorporates elements that address underwriting or insurance risk, asset risk associated with affiliates and otherwise, and various forms of business risk.

The key reference value developed by the RBC formula is termed the "Authorized Control Level" (we refer to this as RBC-ACL). Multiples of the RBC-ACL (e.g., 800% of RBC-ACL) can then be used to establish thresholds, with higher multiples producing an increased likelihood of security against insolvency.

This use of consistently calculated reference values, along with various multiples for different purposes or degrees of concern and security, provides a useful tool for State regulators and industry organizations (such as BCBSA). Key RBC threshold levels applicable to Highmark are described below[2]. Also indicated are the actions associated with these key RBC-based levels, along with equivalent measurements of them in terms of percentages of annual premium.

Consistent with an overall enterprise perspective, we have analyzed the operating characteristics of Highmark and its subsidiaries as an overall, combined entity. This is not unlike viewing the respective segments of insurance business within Highmark and its subsidiaries as if they were lines of business within a single insuring entity.

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[2] All surplus and related financial items addressed in this report are on a statutory basis, unless indicated to the contrary. Further, consideration of historical operating results and surplus requirements is on a "combined" basis across the enterprise, reflecting Highmark's proportionate share of any jointly owned entities or related parties.

BCBSA Minimum RBC-Based Thresholds. BCBSA maintains certain minimum financial requirements that Blue Cross and Blue Shield Plans must meet, as part of the membership standards for use of the trademark. Two key thresholds involving surplus are based on the RBC formula, and are expressed generally as follows:

BCBSA Threshold	Percent of RBC-ACL
Early Warning Monitoring Level	375%
Loss of Trademark Level	200%

Commonwealth of Pennsylvania RBC Requirements. The Commonwealth of Pennsylvania has adopted statutory minimum requirements for the surplus levels of commercial health insurance companies, nonprofit hospital service corporations, and HMOs domiciled in the State (Section 501-B(40 P.S. §221.1-B)). These minimum requirements are expressed in terms of a company's RBC-ACL level, and are generally consistent with the corresponding standards recommended by the NAIC and adopted by most states around the country. Upon triggering the 200% of RBC-ACL threshold, a domestic insurer must formally notify the Pennsylvania Insurance Commissioner of the corrective actions it plans to take. Direct regulatory interventions are triggered if surplus drops to even lower percentage levels.

As indicated above, 200% of RBC-ACL is the threshold for mandatory corrective action plan notification by domestic insurers to the Pennsylvania Insurance Commissioner. The 200% of RBC-ACL level is also the threshold at which a Blue Cross and Blue Shield Plan loses the use of the trademark. Stated in terms that may be more intuitive to grasp, 200% of RBC-ACL equates to just over 8% of annual claims and administrative expenses for the Highmark enterprise, or about 4 weeks' worth.

The loss of trademark due to inadequate financial strength would likely be a catastrophic event: if the trademark were lost the remaining organization, and more importantly its Pennsylvania subscribers, would lose the breadth and strength of the Blues' system. Product recognition, favorable reimbursement rates out-of-area, and a level of service that is often sought out by employer groups would be forfeited. Certain other financial opportunities would also be lost as a result, such as the ability to offer benefits to certain large national accounts and the Federal Employees Health Benefits Program and the access fees for offering Highmark's network to other Blue Plans. Furthermore, removal of the trademark due to financial weakness would open the door to the entry of a non-Pennsylvania replacement Blue Plan. Such an organization could potentially be a for-profit company with a very different mission than Highmark.

C. Minimum Thresholds vs. Optimal Range

The BCBSA risk capital thresholds indicated above are directed at minimum levels – specifically, early warning monitoring, and withdrawal of the trademark. Where states have adopted the RBC-based standard, the application is likewise directed at minimum solvency levels. The focus of oversight and regulatory bodies on adequate minimum surplus levels is understandable and appropriate. These bodies bear responsibility for monitoring the continuing solvency of the health plans under their jurisdiction, and for taking actions before impending insolvency and closure. They had been widely criticized in the past for not maintaining adequate minimum surplus standards or sufficient monitoring of financial strength, and for not taking timely and forceful action with regard to health plans with poor performance.

The proper focus of a financially healthy non-profit Blue Cross Blue Shield Plan, however, is on achieving and maintaining an optimal ongoing surplus level. Such a level is intended to (i) ensure the continuing viability of the company, (ii) inspire warranted confidence by groups, subscribers and providers, (iii) enable the development of competitive yet adequate premium rates for customers, (rather than needing to be excessively high, because of inadequate surplus to back them), and (iv) provide funding for long-term development costs and investments. Such a focus by company management is prudent and appropriate.

An optimal ongoing operating range for a company's surplus level clearly will be higher than the minimum level used by regulators and oversight bodies as a benchmark for warning signals against insolvency and necessary intervention. Prudent company management will focus not only on an appropriate range for its ongoing and long-term needs, but also on the avoidance of approaching levels that may trigger special external scrutiny or intervention, or that may create subscriber, provider, or public concern. Such a range, therefore, must be (i) high enough to avoid having the company's surplus falling to a level where external scrutiny is initiated, and (ii) wide enough to absorb the rises and declines in relative surplus levels that occur during the normal course of business over an extended period of time.

A maximum level for surplus, by contrast, represents the point at which additional accumulation of funds does not contribute meaningfully to furthering the goal of ensuring the future viability of the company or protecting its members. By definition, exceeding such a level does not add to the well being of the company.

IV. BUSINESS CYCLES

A. Underwriting Cycles in the Health Insurance Industry

Nature of the Business. A basic characteristic of health insurance is that the ultimate cost to the insurer of the services which will be used by the purchaser under the coverage being sold is not known at the time of sale. The insurer does not know the volume and scope of the benefits that will be used; and the actual cost of the benefits also varies depending on the provider that renders the service. As a result, the actual costs cannot be fully determined until some time after the coverage period has expired, when all claims have been submitted and processed. In providing coverage, a health insurer bears the financial risk in the event that actual costs exceed the expected cost reflected in the premiums being charged.

Operating or underwriting gains and losses are a result of the differences between premium revenue and expenses. Premium rates are established by the insurer based on assumptions as to future claim cost levels (cost of care), administrative and other expenses, and investment income, with allowances for profit and/or contributions to surplus. The most important of these components is the claim cost level, which often constitutes 80%-90% of the total premium. Although estimation and uncertainty are present for all of the premium components, uncertainty as to future claim cost levels creates the most substantial risk for the insurer.

Under normal circumstances, estimates of future claim cost levels are projected from historical claims experience, with consideration as to changes in benefits, likely rates of change for factors such as price and utilization trends, changes in health care practices and technology, impact of care management initiatives, or changes in the characteristics of the covered population. Despite continuous efforts by most health insurers to contain or stabilize these rates of change, their impact cannot be predicted with certainty.

The period of time required for medical claims to be reported, processed and adjudicated is approximately two months for typical health insurance coverages. Because of the resulting delays in measuring historical claims experience and because premium rates must be determined many months in advance of their applicable rating periods, claims must often be projected for a

period of 21 to 24 months, and even then using imperfect historical claims data. Health care costs in recent years have frequently increased at annual rates of 10% to 15%, or even higher. Therefore, the uncertainty in projected aggregate claim cost levels for even a large block of mature business can be substantial over a multi-year period of time.

When variances do occur, their timely recognition is crucial. By the time financial reports have been compiled to show underwriting results for the previous year, premium income for the current year has been largely determined through twelve-month rate guarantees that are already in place. Corrective actions taken in response to these financial reports are unlikely to yield results until the subsequent year, because of the lead time needed to implement rate changes and the development time required for cost control initiatives. As a consequence of this inherent nature of health insurance operations, multi-year periods of unexpected or unplanned gains or losses commonly arise. This tends to produce cyclical operating results for health insurance business.

Historical Underwriting Cycles. Underwriting or operating results of health insurers have been characterized historically by marked underwriting cycles, resulting in part from such delays in response time. Periods of industry-wide underwriting or operating gains have been followed by periods of losses, and then again by periods of gains.

While specific patterns have varied by company and by market segment or region, marketwide results have historically exhibited a consistent six-year underwriting cycle – three years of gains followed by three years of losses – throughout the twenty-five year period from the mid-1960s to the end of the 1980s. This is shown in Chart 1, which summarizes aggregate annual underwriting or operating gain/(loss) for all Blue Cross and Blue Shield Plans. Note that these results do not reflect investment income, nor do they reflect Federal income taxes. Comparable data available for commercial insurance companies through 1993 exhibits a similar pattern.

Underwriting cycles in the industry have been driven to a significant extent by changes in claim trends, which historically have also followed a cyclical pattern. Chart 1 also shows the pattern of health care cost trends, as represented by the Health Cost Index™ maintained by Milliman. This measure of health care cost trends reflects nationwide changes in non-Medicare health costs,

exclusive of factors affecting specific carriers such as adverse selection, shifts among product types, deductible leveraging, and changes in comparative discounts; as a result, it tends to understate the trend levels that would have been experienced by a particular carrier in one market or another. Nevertheless, it is apparent that underwriting results and health care trends have been inversely correlated.

This correlation has occurred because carrier rating practices tend to reflect past claims experience projected at recent trend levels. When claim trends increase unexpectedly, underwriting losses materialize because carrier premium rate levels have not anticipated the higher trends. Once recognized, the higher trends are considered in the calculation of future premiums, which leads to higher premium rate increases by carriers, often generating underwriting gains once trends begin to decline.

The delay involved in carriers' abilities to recognize trend and other rating parameter changes and build them into future premium rates contributes to cyclical underwriting results. Another factor, highly related, is that when recent underwriting results have been favorable the marketplace often begins to reflect optimism, which translates into relatively more aggressive pricing by competitors; similarly, after a period of losses carriers generally become more pessimistic, which translates into more conservative pricing. Further, carrier development costs and/or losses associated with the introduction of new products has compounded these results.

While underwriting cycles have long been recognized by health insurers, predicting their course has never been a simple matter -- particularly because the precise timing and magnitude of such cycles tend to vary by carrier, region, and market segment. Further, competitive pressures limit any individual carrier's ability to increase rates significantly faster than competitors.

As shown in Chart 1, the cyclical pattern of the Blue Cross and Blue Shield underwriting results for the system as a whole has changed somewhat in recent years. Beginning in 1989 these results exhibit an extended period of six years of moderate underwriting gains overall, followed by an extended period of moderate losses in the subsequent years, then with gains in the most recent four years. The experience of many HMOs was similar during this period. The extended duration of these phases represents a departure from previous cycles.

There are a number of possible explanations for this recent change in the pattern of underwriting results. Foremost is a moderation in health cost trends during the 1990's, resulting at least in part from low inflation coupled with aggressive carrier contracting with providers and significant expansion of managed care activities. In addition, many health plans had negotiated global fee schedules, and even provider risk-taking arrangements that provided some protection to the insurer against losses by transferring risk to providers. Many of these moderating factors have since diminished or disappeared, creating considerably more uncertainty and volatility for health insurers.

Considerations for the Future. A number of specific features of the health insurance business environment have changed over the course of the past 20-25 years, but the fundamental nature of the uncertainties that exist and the characteristics of the products that give rise to cyclical results still remain.

As noted in the previous section, and shown in Chart 1, the cyclical pattern of Blue Cross and Blue Shield underwriting results for the system as a whole has changed somewhat in recent years. Within the past 3-4 years, a number of specific changes have occurred that warrant consideration and ongoing attention with regard to the Highmark enterprise's need for surplus. Principal among them are:

- Reduction in managed care constraints, affecting utilization levels and trends, without incorporation of other forms of compensating controls by providers.

- Intensity of provider price and contracting pressures, due at least in part to government program cost-shifting and provider consolidations.

- Resulting high and volatile medical cost per member trends.

- Underlying market instability, produced by recent but continuing high medical cost trends.

- Legislative and regulatory mandates and compliance requirements, necessitating ongoing operational investments.

- Escalating technology support and information demands.

- Growing market pressure for new group and individual products, with stronger financial incentives for members.

- Ongoing reform of Medicare, with the opportunities and uncertainties created for health plans.

- Growing catastrophic risks, from litigation and terrorism.

The first four of these environmental factors are all contributors to, or consequences of, high and volatile medical cost trends. Historically, uncertainty as to trends, and periodic intervals of high trend levels, has contributed directly to downward business cycles. In addition, trends create "surplus strain" – not unlike enrollment growth – where the absolute dollar level of required surplus grows significantly simply because the dollar volume of business has grown.

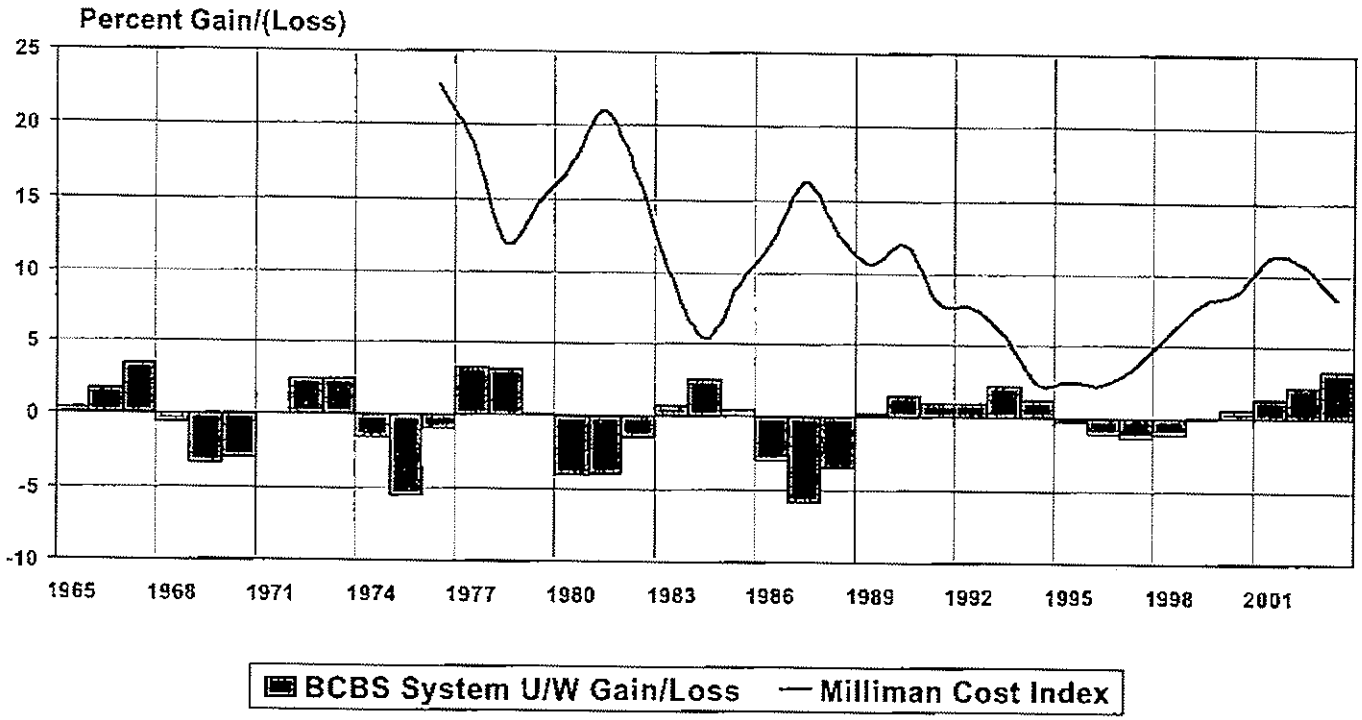
The remaining five environmental factors contribute to either significant investment needs or the risk of catastrophic loss. The pressure on capital investments for infrastructure and new products is likely to be ongoing; responses to market opportunities and pressures is essential; and the prospects for catastrophic events are heightened, in our judgment.

It is impossible to predict the form of future business cycles and whether the traditional six-year underwriting cycle will reappear at the industry-wide level, in either its previous form or some modified version. Nevertheless, the forces and factors at work serve to create cyclical financial results for a health insurer. As a result, multi-year cycles in financial results at the company level are virtually inevitable. Health insurers can take steps to minimize the impact of the

adverse part of the cycles facing them, but cyclical results are heavily driven by the basic nature of health insurance and its guarantees, and by external competitive forces. Note that trend escalation and volatility, which has historically led to adverse cycles, continues. Such volatility in trends is a reminder of the considerable uncertainties in the health insurance business, and historically has been a direct contributor to cyclical underwriting results.

Chart 1

Underwriting Cycles and Trends



B. Adverse Operating Gain/(Loss) Cycles Experienced by Highmark

Highmark is subject to the same types of cyclical forces that drive the results for the industry overall. It is subject to uncertainty in trends, as well as to periodic cycles in the trend levels themselves. With its geographic market, and resulting concentration of business, Highmark is sensitive to this sort of risk. Once losses have begun and have been measured, Highmark then faces the same inherent delays in effecting corrections, due to the basic nature, advance notice of rates, and rate guarantees associated with health insurance. Chart 2 displays the operating gain/(loss) cycles experienced by Highmark since 1980. As can be readily seen, there were three distinct adverse cycles during this period.

The Highmark operating gain/(loss) cycles displayed in Chart 2 are shown as percentages of premium (as in Chart 1). They are shown, however, on two different bases – as percentages of total premium (insured plus self-funded) and as percentages of insured premium only. This distinction is important because the magnitudes, when expressed as percentages, differ significantly (expressed relative to total vs. insured-only premium); and the statutory reporting of premium changed for Highmark from total to insured only premium beginning in 2000.

A careful comparison of the historical operating gains and losses for Highmark (Chart 2) and for the industry as a whole (Chart 1) indicates that the timing of the favorable and adverse cycles was highly consistent for most of this historical period. In addition, the magnitudes of the cycles were generally consistent.

Chart 3 summarizes the cumulative operating losses for the three adverse business cycles experienced by Highmark since 1980, expressed as a percent of annual insured premium. Operating gain/(loss) reflects the excess of premium over claims and expenses, prior to such items as investment income and Federal income taxes; it provides a direct measure of business performance, in terms of the adequacy of premium rates (relative to claims and administrative expenses). Operating losses are shown in Chart 3 for Highmark Inc. as a separate operating company and for the combined enterprise (i.e., Highmark Inc. plus its subsidiaries and affiliates). Expressed as percentages of premium, the patterns of the operating company and the combined enterprise losses were similar in magnitude.

Each adverse or down cycle shown in Chart 3 was a distinct multi-year period of operating losses – 1980-82, 1986-88, and 1995-99. Separating these adverse operating loss cycles have been multi-year periods of gains, or upward business cycles. The three adverse cycles for the combined Highmark enterprise each produced cumulative operating losses that ranged from approximately 13% to over 18% of a year's insured premium, averaging about 15%.

It should be noted that investment income was significant in magnitude during each of these three historical operating loss cycles. This provided a meaningful offset (an average of over 3% of premium for each year of the cycle) to the impact of these adverse cycles on Highmark's surplus. Recently, however, investment income levels have been substantially lower.

Chart 2
Highmark Operating Gain/(Loss) Cycles

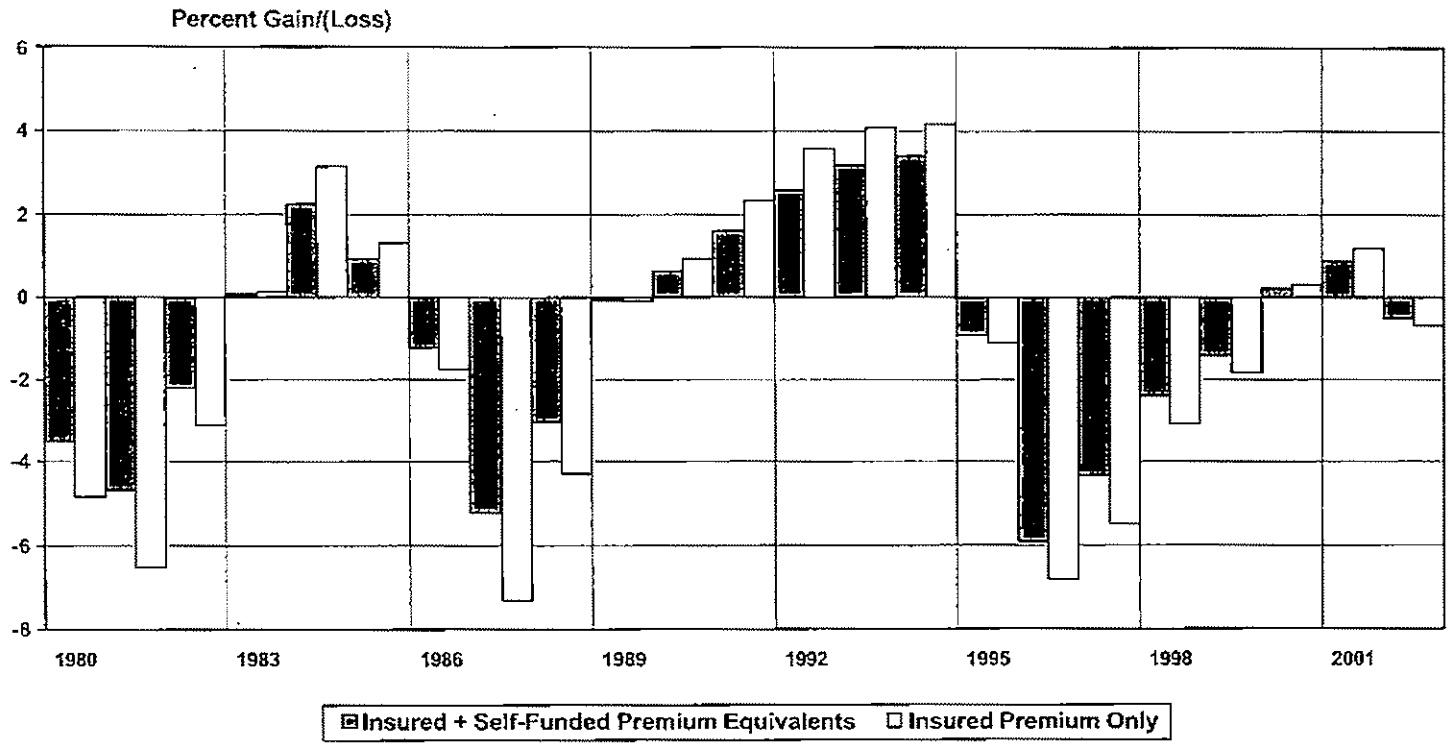


Chart 3

Highmark Operating Loss Cycles[1]

Entity	Cumulative Operating Loss for Entire Cycle[2]			
	1980-82	1986-88	1995-99	Average
Highmark Inc.	(14.0)%	(12.6)%	(18.3)%	(14.9)%
Combined Highmark Enterprise	(14.5)	(13.3)	(18.4)	(15.4)
Combined Highmark Enterprise, excluding Keystone East & Central	(14.5)	(13.1)	(20.1)	(15.9)

Notes:

(1) Gain/(loss) expressed as a percent of insured annual premium. Excludes estimated self-funded premium equivalents for all years.

(2) Operating gain/(loss) is the excess of premium over claims and expenses, prior to investment income or taxes. Cumulative percentages are the sum of annual loss percentages, over the loss cycle indicated.

C. Adverse Cycles for a Comparison Set of Blue Plans

In order to take a closer look at adverse cycles experienced by individual companies within the health insurance industry, we compiled operating results as a percent of premium for the top (i.e., largest) nearly half of all reporting Blue Plans in the country, starting with 1980. The results are shown in Chart 4. Also shown on this chart are the results for Highmark and the overall results for the industry as a whole. Although Highmark has experienced its own unique circumstances, the similarities among Plans are apparent.

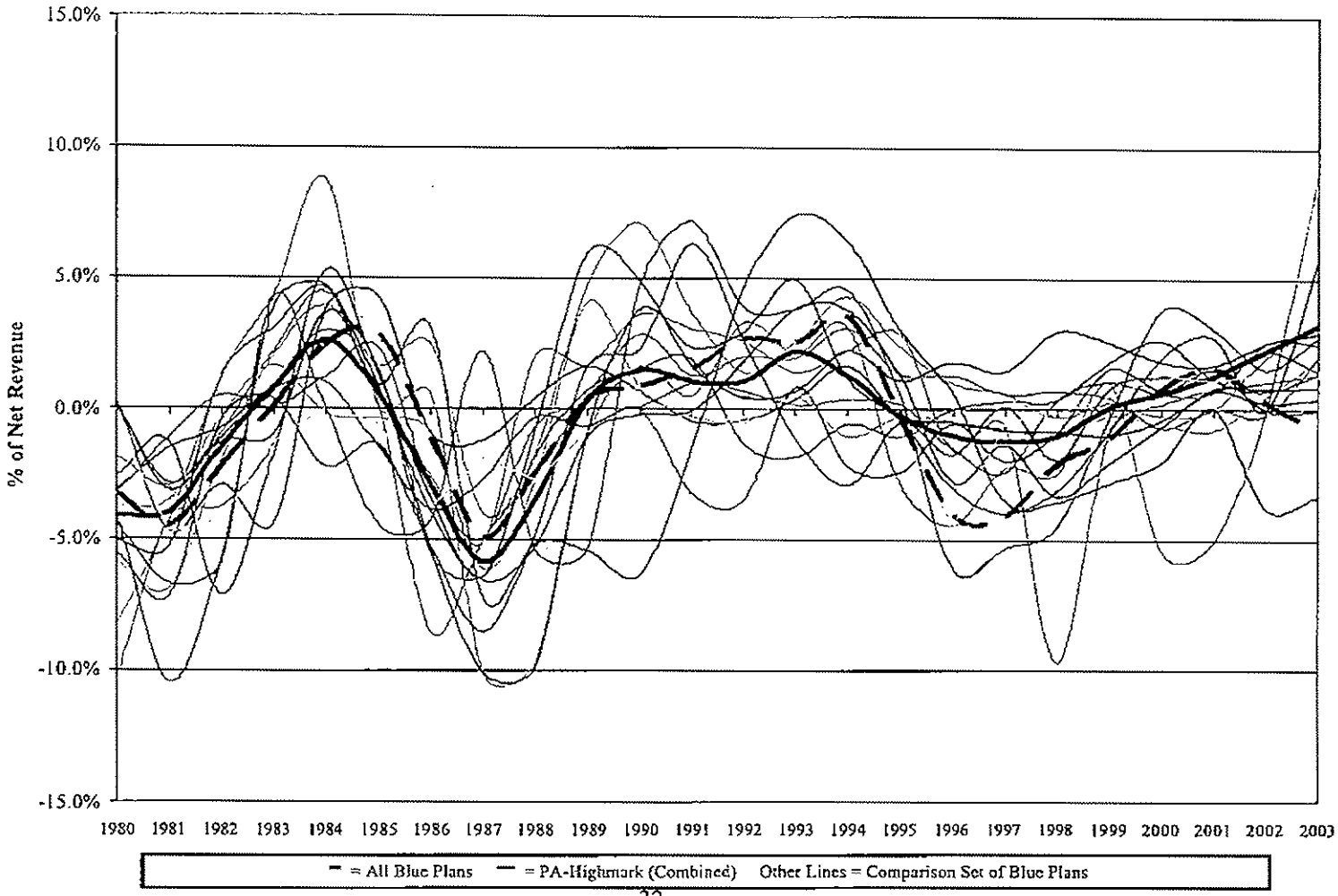
Among these 18 Blue Plans, there were a total of 52 adverse cycles during the period 1980 – 2003. Most of the Blue Plans in the set had three adverse cycles during this period, the same as experienced by Highmark. The following table summarizes the total loss percentages corresponding to the 90th, 85th, 80th and 75th percentiles of all 52 adverse cycles experienced by this set of Blue Plans.

Adverse Cycle Results for Selected Set of Blue Plans	
Percentile of Adverse Cycles*	**Cumulative Underwriting Gain/(Loss) Percentage**
90th	(22)%
85th	(20)
80th	(18)
75th	(17)

* Percentile of all adverse cycles for the period 1980-2003, among the set of 18 Blue Plans observed.

Chart 4

Underwriting Gain/(Loss) for Selected Blue Plans



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V. RISKS AND CONTINGENCIES

By observing multi-year operating results for health insuring entities – Highmark, other Blue Plans, or the industry as a whole – one can measure the combined actual impact of the risks and contingencies, including expenditures for developmental activities, faced by such entities on their operating gains or losses. In the previous section of this report, we presented such results for historical periods beginning with 1980. This provides an empirical, experience base for evaluating loss periods that carriers have had to withstand.

In this section of the report we take an alternative approach to quantifying the risks and contingencies which Highmark faces. This approach involves developing a range of possible values and associated probabilities for each of several major categories of risk and funding contingencies in Highmark's operations, for which surplus requirements need to be recognized.

A. Major Risks and Contingencies

We have identified several major categories of risks and contingencies for which surplus is required. They can be summarized as follows:

Major Risk and Contingency Category	
(1)	Rating adequacy and fluctuation
(2)	Unpaid claim liabilities and other estimates
(3)	Interest rates and portfolio asset values
(4)	Overhead expense recovery risk
(5)	Other business risks, including self-funded business
(6)	Catastrophic events, including litigation
(7)	Provision for development and growth

These categories generally follow the types of risk categories recognized in the RBC formula for managed care companies, but they further reflect components associated with ongoing viability (beyond solvency alone).

Rating Adequacy and Fluctuation. Highmark's development of premium rate increases is intended to make provision for expected trends in claims cost and utilization as well as changes in required retention components. Highmark must determine the annual trends in claims cost to use in developing its premium rates which involves a high degree of uncertainty for its overall major segments of business and, even higher, for its individual group customers or other rating pools. Similarly, variations between actual and budgeted expenses occur during the normal course of business. In addition, Highmark may be faced with an unbudgeted and yet necessary expense as a result of some unexpected event. Unfavorable variances for any of these factors require drawing on surplus.

In general, a substantial lag exists for all health insurers between a change in trends and its recognition. An inherent delay is present in the evaluation of claims incurred during an experience period due to lags in reporting claims, as discussed previously. Even after claims have been sufficiently developed, the initial manifestations of a trend change are generally so slight as to be obscured by other phenomena, such as seasonal fluctuations. Finally, when the effects become clearly perceptible, the actuary and Plan management are faced with the question as to whether they represent a change in the underlying trend or a temporary random fluctuation. Because evidence of trend change is generally not obvious before a substantial period of time has elapsed, a trend change can deplete surplus for several years.

In order to provide as much of a factual, experience-based foundation as possible, the usual practice in setting trends for premium rates is to rely heavily on the trends observed over at least the most recent twelve-month period. Use of a twelve-month or longer period results in more gradual changes in rates than would be required if short-term fluctuations were given full credibility. The result is an understatement of premium income if trends worsen and an overstatement if trends improve.

In addition, since premium rates for a large portion of Highmark's business are guaranteed for a twelve-month period, following a significant period of advance notice, immediate implementation of trend changes cannot be made. Thus, provision must be made in surplus for withstanding delays in implementing trend or other rating parameter changes.

Unpaid Claim Liabilities and Other Estimates. Since a health insurer's surplus is defined as the excess of assets over liabilities, any misstatement or risk of fluctuation in either of them has a corresponding impact on reported surplus. The potential for misstatement applies, in particular, to those actuarial or other items contained in the company's statutory insurance blank which require estimation.

The single most significant of Highmark's actuarial items, in terms of the degree of estimation required, is its unpaid claim liabilities. To the extent that actual claim runoff differs from the liability estimate for unpaid claims, surplus will be correspondingly overstated or understated. Partially offsetting the risk of understatement in this liability is generally an estimation margin. Such margins mitigate, but do not eliminate, the risk of understatement. Surplus is the insurer's means of providing protection against this eventuality.

Other actuarial items contained in Highmark's balance sheet also require estimates, and therefore entail uncertainty. These include provider settlement liabilities, certain policy reserves, unpaid claims adjustment expense liability, and other items.

Interest Rates and Portfolio Asset Values. Most of the non-affiliated admitted assets carried by Highmark on its statutory balance sheets are effectively reported at market value (as required). Although the risk of misstatement in such values may not be significant, due to accounting and auditing controls in place, the risk of fluctuation in such values over time is significant.

The asset portfolio of Highmark Inc. contains a diverse mixture of interest bearing instruments and equities, in addition to its equity interest in subsidiaries and affiliates. Overall, about two-

thirds of the investment portfolio (excluding Highmark's equity interest in subsidiaries and affiliates) was invested in interest bearing instruments at the end of 2003, and the remainder was in equities.

Since long-term assets-to-liability matching is not a significant investment management issue for a company with mostly short-term obligations like Highmark, the primary matter of concern regarding surplus is fluctuation in market values of the asset portfolio, with the corresponding impact on surplus. Beyond the possibility of default or impairment, the primary risk of an adverse fluctuation in interest-bearing securities is an unexpected rise in interest rates generally in the market. For equities, risk is present with regard to market conditions generally, and the performance of individual securities and instruments specifically.

Overhead Expense Recovery Risks. A contingency for which surplus provision needs to be made is an unanticipated fluctuation in the level of administrative expense recoveries. These recoveries are made, under normal circumstances, through the administrative expense component of premium rates for insured business, fees paid by self-funded groups, and fees or revenue otherwise generated from other business activities. An adverse fluctuation may occur, for example, because a large group terminates unexpectedly, with a resulting decrease in retention revenue or self-funded fees. A corresponding decrease in expenses would not occur immediately, and expense ratios would therefore increase.

Other Business Risks, Including Self-Funded Business. As with any business enterprise, Highmark faces a host of business risks during the normal course of business. Most of these can be absorbed within the scale of Highmark's overall operations.

A particular category of risk, which is perhaps unique to a health insurer such as Highmark, is risk associated with self-funded group business. Unlike some self-funded business administered by a third party administrator for an employer using employer funds, Highmark's self-funded business entails a variety of risks for the insurer. These include default in reimbursement by an employer group, refusal to reimburse certain claims, defense of disputed claims, audit or

litigation related to payment policies and practices, contractual disputes regarding discounts, etc. Such risks are not insignificant.

Highmark has a substantial volume of self-funded business, primarily involving larger employer groups. For 2003, the volume of self-funded business was approximately one-half of the volume of insured business written by the Highmark enterprise.

Catastrophic Events, Including Litigation. As discussed earlier in this report, Highmark faces the risk of catastrophic events occurring. Such events include extraordinary medical costs due to terrorism, epidemics or pandemics, and natural or public health disasters. They also include other events with a potentially extraordinary adverse financial impact – such as major fire or other business interruption disaster, or excessive damage awards from major class action or other litigation.

A prudent insurer must provide protection against such risks, so that the company is not exposed to ruin or incapacity from such an event. This is necessary to remain a viable company. It is also necessary to protect the ability of Highmark's members, providers, and vendors to safely rely on the company for the financial security that they believe they have contracted for or purchased. Prudence dictates that surplus for Highmark be sufficient to withstand the risk created by such threats, to the maximum extent possible.

Provision for Development and Growth. To maintain competitiveness and ongoing viability, as discussed previously, Highmark must periodically make substantial investments in developmental activities and the acquisition of operational capabilities. These include such far ranging items as new product development, rebuilding of delivery networks, enhancement of care management capabilities, acquisition of new communications or information technology capacities, and adaptation of existing and integration of new administrative processes. Often these capital expenditures do not produce admitted assets, which means that they generally must be absorbed directly and immediately out of surplus.

Likewise, developing and absorbing growth requires equity capital to fund developmental costs, to cover the initial losses resulting from the need to be price-competitive at the outset in order to become established, to absorb any initial losses resulting from setbacks or inexperience in the new market, and to withstand the short-term surplus strain (i.e., growth in enrollment or volume of business in force, without corresponding immediate growth in surplus). Obviously, a prerequisite for financially sound growth is strong surplus.

B. Monte Carlo Simulation of Losses

Associated with each of the risk and contingency categories identified above is a range of possible impacts on Highmark's operating results. Under this alternative approach to quantifying the potential multi-year loss against which the company's surplus needs to provide protection, we have developed what we believe is a reasonable range of possible values for each risk and contingency category. Possible outcomes for each risk and contingency category are divided into a discrete number of representative outcome values, to each of which we have assigned a probability or likelihood.

These values and probabilities are based on analysis of historical data, our observation of similar results in connection with our work at various Blue Cross and Blue Shield Plans, interpretation of that data in light of the current and anticipated future operating environment of the Plan, and professional judgment. For those categories of risk involving fluctuations (e.g., rating parameters, unpaid claims liabilities, and interest rates and portfolio asset values), the range includes representative outcomes in which operating results would produce gains, as well as those in which overall cumulative losses would occur. Assignment of probabilities to be associated with each of these outcomes is based on the same considerations used in developing the ranges of values and representative outcomes.

Many of the risks and contingencies faced by Highmark are interrelated. We recognized this in our treatment of the probabilities by considering certain risks or contingencies to be independent, while considering others to be dependent. The primary independent risk category was fluctuation in rating parameter adequacy. Risks from unpaid claims liability fluctuation, overhead expense recovery, and other business matters (including self-funded business) plus provision for health care development were each considered to be fully or partially dependent on the rating fluctuation contingency.

The values and probability distributions for each risk and contingency category were combined using a computerized Monte Carlo simulation technique to produce a composite probability distribution. This composite distribution shows the resulting probability that cumulative

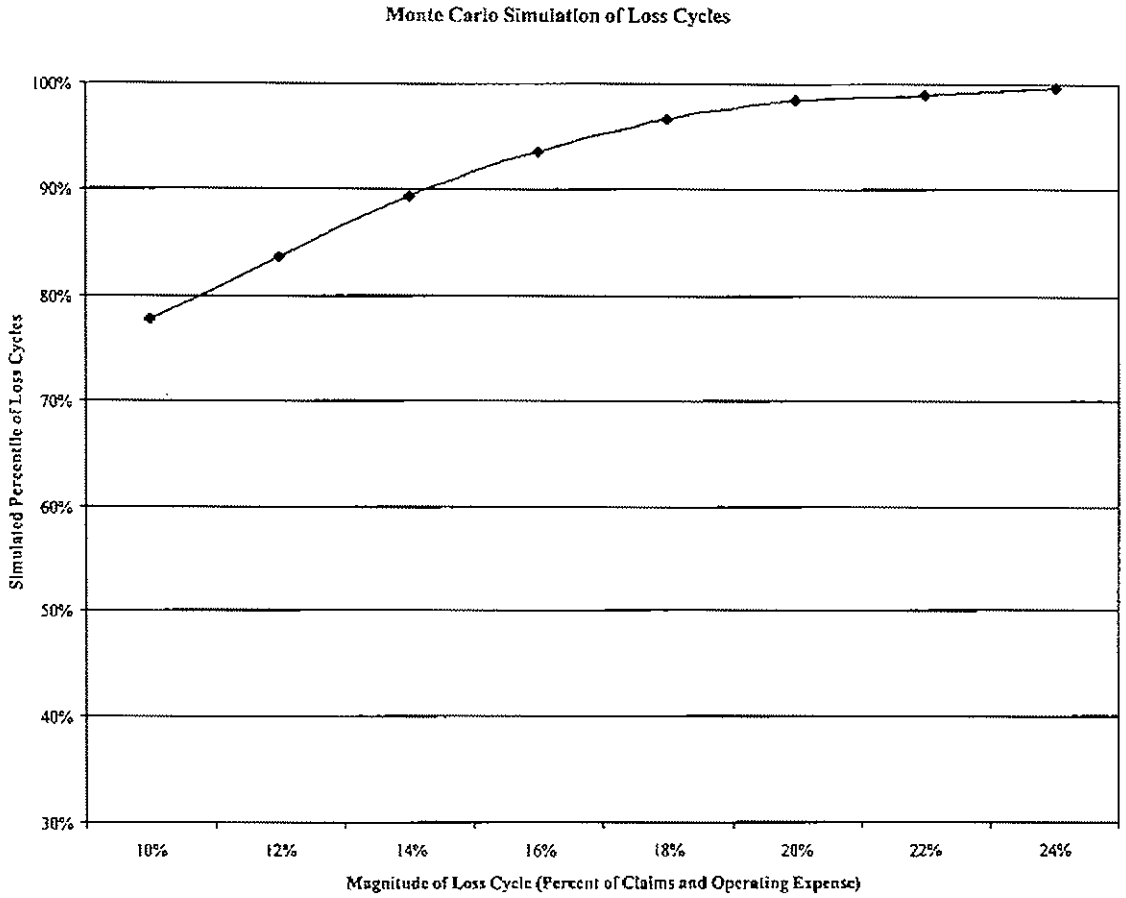
operating losses in total will not exceed given percentages of annual claims and expenses. From this distribution, a range of loss cycle amounts can be determined reflecting the combined risks which have been evaluated and a high probability or likelihood (e.g., greater than 90%) that such a loss level will not be exceeded, even under unforeseen adverse circumstances.

The results of our Monte Carlo simulation of these risks and contingencies are summarized in Chart 5. It shows in graph form the magnitude of cumulative operating loss cycles, expressed as percentages of claims and expenses, at various simulated percentiles of loss cycles. It also displays the cumulative loss cycle amounts for high confidence levels:

Simulated Percentile of Operating Loss Cycles	Cumulative Loss for Adverse Cycle
98th	19%
95th	17
90th	14

Based on this analysis and approach, we conclude that an optimal range for Highmark's surplus should be sufficient to withstand cumulative operating losses over a multi-year period of the magnitude of 14-19% of annual claims and expenses for the enterprise. We observe that these simulated results are highly consistent with the actual loss cycles experienced by Highmark over the past 25 years.

Chart 5



Simulated Percentile of Operating Loss Cycles	Cumulative Loss for Adverse Cycle
98th	19%
95th	17%
90th	14%

VI. DEVELOPMENT OF TARGET RANGE FOR SURPLUS

A. Goals for Optimal Surplus Target Range

The establishment of an optimal target range for its surplus is one of the more important financial policy issues Highmark must address. It has fiduciary, business management, and strategic implications.

The goals for Highmark in determining a target surplus range should begin, we believe, with the BCBSA thresholds. Specifically, we recommend that they be established to achieve the following goals:

- ***Early Warning Monitoring Threshold Avoidance*** – Provide a high likelihood that the overall surplus level for Highmark, as an entire enterprise, will remain above the BCBSA Early Warning Monitoring threshold level, even after a particularly adverse period of multi-year operating or underwriting losses, thereby enabling ongoing viability;

- ***Loss of Trademark Avoidance*** – Assure with virtual certainty that surplus will remain above the BCBSA Loss of Trademark threshold level for the enterprise, even if a severely adverse period of multi-year underwriting losses were experienced, or if back-to-back loss cycles were to occur without adequate recovery between them, thereby avoiding failure; and

- ***Adequate Provision for Development and Growth*** – Provide equity capital to enable periodic investments in technology, product development, building or acquisition of complementary business capacity, and growth in business in force without jeopardizing the company's risk capital position.

This statement of goals for the Highmark enterprise is based, as indicated previously, on the perspective of the Highmark enterprise, including its subsidiaries and affiliates. The statutory surplus reported by Highmark Inc., as parent, is the surplus for the entire enterprise. Our understanding is that such surplus is effectively available for the mutual protection of all entities within the Highmark enterprise.

Historically, the operating loss cycles for Highmark Inc. (the parent company only) and for the Highmark enterprise on a combined basis have been of similar timing and magnitudes (see Chart 3 earlier in this report). Further, the preponderance of insurance products offered by the Highmark subsidiaries are related in some fashion to health insurance. These factors, taken together, indicate to us that quantifying Highmark's surplus needs on an enterprise-wide basis is appropriate. If circumstances should change materially in the future or new non-health products become a dramatically larger part of Highmark's business operations, this approach may need to be reconsidered.

The remainder of this section of our report is devoted to a quantitatively-based pro forma projection approach to evaluating and developing a target range for Highmark's surplus.

B. Provision for Operating Loss Cycles

The goals for an optimal operating range for Highmark's surplus, as stated above, entail surplus remaining above certain minimum thresholds regardless of the operating results that Highmark experiences, including the possibility of a particularly adverse multi-year period of operating losses. In approaching this analysis, we have established three different approaches to quantifying an appropriate magnitude for the loss cycles to be considered for purposes of making provision in surplus. In establishing the potential magnitude of such a loss cycle, we are not predicting it to occur, nor are we suggesting in any way that Highmark should accept the inevitability of such an adverse cycle occurring during the near term. Instead, we are attempting to establish a magnitude of adversity against which the company should protect itself, its members, and its providers and vendors.

The first of these approaches is to recognize the multi-year loss cycles that have been experienced by the Highmark enterprise, and to make provision for a loss period of comparable magnitude to occur again at some point in the future. The second approach is to recognize the multi-year adverse cycles that occurred during the past two decades within the industry, for generally similar Blue Plans, and to make provision for cycles of the corresponding magnitude to face Highmark sometime in the future. The third approach is to quantify the distributions of amounts of potential loss due to major risk and contingency categories, and to combine such amounts based on provision for their respective likelihoods.

In the preceding sections of this report, we developed the magnitude of cumulative multi-year losses for which surplus provision should be made under each of the three approaches identified above. The results can be summarized as follows:

Source/Basis	Cycle Operating Loss*
Highmark Experience	15-18%
Comparison Set of Blue Plans	17-22
Simulation of Risks and Contingencies	14-19
* Cumulative operating losses, as a percent of annual insured premium (claims and expenses, for the simulation).	

One of the three surplus goals identified earlier in this section of our report is to provide a high likelihood that the overall surplus level for Highmark will remain above the BCBSA Early Warning Monitoring threshold, even after a particularly adverse period of multi-year operating losses. In order to meet this goal of avoiding the Early Warning Monitoring threshold, the surplus target must be high enough so that (i) a particularly adverse loss cycle can be absorbed, without (ii) the surplus level dropping below the Early Warning Monitoring threshold (375% of RBC-ACL).

To represent a particularly adverse loss cycle – based on consideration of the actual loss cycles experienced by Highmark in the past, the history of loss cycles for other BCBS Plans, and the simulation of risks and contingencies for Highmark – we have assumed a multi-year operating loss period creating a cumulative loss falling in the range of 14-17% of annual insured claims and administrative expenses. Provision to withstand a loss cycle falling in this range would have covered two of the three adverse cycles experienced by the Highmark enterprise over the past 25 years, 75% of the loss cycles experienced by the Comparison Set of BCBS Plans, and 95% of the simulation loss periods. Using these criteria to establish a target surplus level means that a 14-17% cumulative loss over a 3 – 4 year period must be able to be absorbed by Highmark without surplus dropping below 375% of RBC-ACL.

Similar conditions apply to meeting the goal of avoiding the Loss of Trademark threshold. The surplus target must be high enough so that (i) a severely adverse loss cycle can be absorbed, without (ii) the surplus level dropping below the Loss of Trademark threshold (200% of RBC-ACL).

To represent a severely adverse loss cycle – based on the same three alternative considerations as described above – we have assumed multi-year cumulative operating losses falling in the range of 17-20% of annual insured claims and administrative expenses. Provision to withstand a loss cycle falling in this range would have covered substantially all of the historical loss periods experienced by Highmark and other larger Blue Plans, as well as almost all of the risk and contingency simulation scenarios. This is consistent with the Loss of Trademark goal of assuring with virtual certainty that failure does not occur as a result of breaching this threshold.

Together, these adverse cycle loss results form the foundation for our pro forma projection model development of Highmark target surplus levels. To develop such targets, provision for a multi-year loss cycle of the magnitudes indicated in the chart above is combined with minimum floor levels for Highmark's surplus, based on BCBSA thresholds, and with interest and other pro forma financial items needed to evaluate changes in surplus.

C. Pro Forma Modeling of Loss Cycle Impact

To establish the Highmark surplus operating range that would meet the goals established, we projected on a pro forma basis the level of Highmark surplus balances emerging year-by-year under the adverse loss cycle ranges identified above[3]. In each loss cycle scenario, we selected an initial potential surplus target level, and then tested by projecting the impact of the specific operating loss scenario to determine whether the resulting surplus balances projected over time remained above the thresholds within the goal.

Viability Testing Against Early Warning Monitoring Threshold. The upper portion of Chart 6 shows the range of RBC ratios needed at the onset of the indicated operating loss cycles for the company RBC ratio to remain above the BCBSA Early Warning Monitoring threshold of 375% of RBC-ACL. Results are shown under both 11% and 14% assumptions as to annual growth in Highmark enterprise aggregate premium (premium rates and volume of inforce business combined).

These pro forma results indicate that a starting or target surplus level of 800-950% of RBC-ACL for the Highmark enterprise is needed in order for the company to remain viable while withstanding a particularly adverse operating loss cycle (i.e., 14-17% of annual insured claims and expenses). Under the pro forma projections, Highmark could withstand such a loss period and remain above the BCBSA Early Warning Monitoring threshold.

Failure Testing Against Loss of Trademark Threshold. The lower portion of Chart 6 contains the corresponding range of RBC ratios needed at the onset of the indicated operating loss cycles to remain above the BCBSA Loss of Trademark threshold of 200% of RBC-ACL. Alternate annual premium growth rates of 11% to 14% are reflected. These assumptions are intended to reflect modest-moderate sustainable growth rates in enrollment, plus mid-range premium rate increases (high single digit to moderate double digit medical cost trends).

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[3] Other key projection assumptions include 5% average annual investment yield, other income levels consistent with Highmark's long-term forecast expectations, 200% RBC-ACL equating to approximately 8.7% of claims and expenses for the enterprise, and the elimination of Highmark's deferred tax asset with an adverse cycle loss period.

These pro forma results indicate that a starting or target surplus level of 650-800% of RBC-ACL is needed by Highmark in order for the company to avoid the loss of trademark as a result of a severely adverse loss cycle (i.e., 17-20% of annual insured claims and expenses). Under the pro forma projections, Highmark could withstand such a loss period and remain above the BCBSA Loss of Trademark threshold.

Surplus Target Range for Highmark. Based on this analysis, we have concluded that a reasonable target for Highmark's surplus is 650-950% of RBC-ACL under normal operating circumstances. This range encompasses the values developed from the pro forma projections and shown in Chart 6.

Chart 6

RBC Ratio Needed to Remain Above Minimum Surplus Floor Levels

Simulated Results under Range of Operating Loss Cycles

Operating Loss Cycle	Early Warning Monitoring Floor (375% of RBC-ACL)	
	11% Premium Growth*	14% Premium Growth*
14%	800%	850%
17	850	950

Operating Loss Cycle	Loss of Trademark Floor (200% of RBC-ACL)	
	11% Premium Growth*	14% Premium Growth*
17%	650%	700%
20	700	800

* Aggregate growth in premium revenue, including changes in both premium rates and enrollment.

VII. SURPLUS TARGET RANGE AND MANAGEMENT PROCESS

A. Basic Goal for Surplus Management within Target Range

As we indicated earlier, the establishment of a target range for its surplus is one of the more important financial policy issues that a company like Highmark must address. The same applies to the development, implementation, and periodic updating of business plans to reach and maintain a surplus position within an optimal target surplus range.

Based on the analysis contained in the previous sections of this report, we conclude that an appropriate target for Highmark's surplus falls in the range of 650-950% of RBC-ACL. A reasonable goal for Highmark with regard to achieving this, we believe, is to establish rates overall with a premium margin (surplus contribution factor, along with other financial elements) sufficient to place the company well within the target surplus range. The necessary level of annual contribution to surplus in order to simply maintain it at an optimal target level could well average at least 2-3% of premium. This 650-950% of RBC-ACL range is wide enough to allow for a reasonable degree of fluctuation in operating results year-to-year, under normal operating circumstances, over a multi-year horizon.

By positioning the Plan's surplus well within the range, the company can then take measured steps in the management of day-by-day financial operations. As the actual level of surplus fluctuates within this range, Highmark should generally take steps to (i) gradually increase the RBC ratio level as surplus nears the lower end of the target range, and (ii) slow the rate of surplus growth as it nears the upper end. Sustaining favorable operating results for an extended period of time has been rare within the industry, as has been discussed. By focusing on actions to strengthen surplus as it nears the lower end of the target range, and before it drops below the target range, Highmark can compensate for the fact that the lower end of the target range does not provide the degree of security that a viable company might wish to have. Likewise, by taking actions to ease surplus growth as it nears the upper end of the target range, Highmark can reduce the likelihood of accumulating surplus amounts that do not further the well-being of the company, without jeopardizing its security.

B. Actions When Surplus is Above Target Range

As indicated above, the basic goal for surplus management by Highmark under normal circumstances should be to continually attempt to maintain its level well within the target range established. Periodically, the continued appropriateness of the target range itself should be reconsidered, but revised only as fundamental changes in the environment or Highmark's circumstances and experience clearly warrant.

Needs Outside the Norm. On a regular basis, near-term circumstances that may not be "normal" on an ongoing basis should be closely monitored. From time-to-time, such circumstances may warrant a surplus level above the target range. Such circumstances might involve major upcoming development activities with significant expected costs, growth opportunities involving heightened uncertainty and/or probable surplus strain (i.e., downward movement in RBC ratios, due to increased business in force), attractive acquisition candidates requiring equity capital and many other possibilities. These are the sorts of specific circumstances that may require additional surplus, but vary over time as the market and business environment change.

Stable Operating Results and Surplus. For a large insurance company upon whom many depend for their health insurance coverage and the personal security it provides, financial strength and stability are essential. Financial strength has been addressed at length in this report. It is needed, in particular, to provide protection against the risks and uncertainties associated with medical costs and all of the other business matters affecting the insurer. A critical challenge for Highmark's management team is to manage these risks and, in particular, the premium revenue generated to pay for claims and expenses and to maintain surplus.

Management of premium revenue has its own set of financial and market or customer challenges. Among these are to stabilize year-to-year changes in premium rates to the extent possible, at levels which are sustainable. This is important for Highmark's customers, who must pay them, and for Highmark's own financial planning and management. This is a key reason why gradual steps to build or ease its surplus are important, since such steps directly affect the company's

premium rates. Taking other than gradual steps affecting surplus also increases uncertainty for the company, as opposed to steps which ease surplus levels up or down slowly and permit course corrections as ongoing experience emerges.

Disposition of Unneeded Surplus. Having unneeded surplus, for a not-for-profit company such as Highmark, means that the company has assets that do not contribute to its business success or welfare, and that do not serve its business purposes. Obviously, any such assets would be invested by Highmark so as to generate a return, which would then be reflected as an investment credit in premium rates. Such a situation can also potentially be treated as having principal amounts (as opposed to ongoing interest or investment income amounts) that could be returned through a similar sort of credit in premium rates (in lieu of future investment earnings credits).

As we noted at the beginning of this report, any step to distribute the company's surplus has legal and philosophical ramifications (as well as financial ones), which we have not considered. Our understanding of Highmark's corporate perspective and position is that (i) statutory surplus represents the amount of those assets of the company not necessary to back its statutory liabilities, (ii) any disposition of a material amount of such assets would require management and Board of Directors authorization, (iii) such authorization could only be given if they were determined not to further the well being of the company, (iv) such a determination could only be prudently made upon deliberate consideration of the conditions and circumstances present at the time, and (v) if such a decision were made, the appropriate recipients would be the Plan's ongoing customer base, who largely contributed premiums and fees to the company that generated its surplus and who as a general class would otherwise benefit (directly or indirectly) from future investment earnings.

Mechanism for Returning Unneeded Surplus to Customers. If Highmark were to consider distributing to its customers certain amounts of surplus that it determined were not needed to further the interests or welfare of the company, then we believe that adherence to certain key principles is essential in order to protect the financial stability and ongoing viability of the company. They flow from the discussions above, and are as follow:

- *Use of Upper End of Target Range as a Flag Only* – As previously discussed, the target surplus range we have developed is only that: a target, applicable under normal operating circumstances. As such, it is not appropriate, in our judgment, to use the upper end of the target surplus range as an absolute maximum for surplus. At most, it might serve as a flag, which could trigger a careful assessment of specific conditions and circumstances present at that time, in order to determine whether unneeded surplus has been accumulated.

- *Evaluation of Specific Conditions and Circumstances* – Only with a careful analysis and evaluation of specific conditions and circumstances at such time as Highmark's surplus might exceed the upper end of the target range can a determination be made as to whether or not any surplus amount held is not needed. To do otherwise, in our judgment, would be financially irresponsible.

- *Distribute any Unneeded Amounts Slowly* – If a determination were made that certain Highmark assets were unnecessary, and distribution were authorized, then the amount to be distributed should be modest relative to premium rate levels (e.g., over several years, and not more than perhaps 1% at any time), so as not to destabilize customer rates or the market.

- *Re-evaluate Continuing Distributions Annually* – Further assuming that a distribution were to be made, and that it would span more than a 12-month cycle of new issues and renewals, then a re-determination of the continuing presence of unneeded surplus and the appropriateness of continued distribution should be made each year, after the statutory blank has been completed. This is essential, to enable course corrections as financial experience emerges.

By following these principles (along with supporting administrative and reporting provisions), and using the 950% of RBC-ACL upper end of the target range as a flag, Highmark should be able to manage its surplus in a financially sound fashion, consistent with its corporate mission and its needs as a viable business enterprise.

C. Conclusions

We believe that targeting Highmark's overall surplus level in the range of 650 – 950% of RBC-ACL is reasonable and appropriate under normal operating circumstances, to ensure financial viability for the company and to provide security in the health coverage provided to its over 4 million Pennsylvania members.